

Claims

1. A method of assessing *ex vivo* the titre of fertility-relevant autoantibodies of a mammalian female, comprising the steps:
  - presentation of a molecule which binds to an idiotype of the fertility-relevant autoantibody, and
  - determining the amount of autoantibody being bound by said molecule from a sample of a body fluid of said mammalian female.
2. The method as claimed in claim 1, wherein said mammalian female is a human female.
3. The method as claimed in claims 1-2, wherein said body fluid is blood, serum, blood plasma or saliva.
4. The method as claimed in claims 1-3, wherein said molecule capable of binding to the idiotype of the fertility-relevant autoantibody is an oligo- or polypeptide.
5. The method as claimed in claims 1-4, wherein the oligopeptide is a peptide consisting of less than 40, most preferably less than 20 amino acids.
6. The method as claimed in claims 1-5, wherein the polypeptide is a naturally occurring protein, either being isolated from its natural source or being expressed in a recombinant host system, the latter thereby including modifications of the sequence by addition of sequence TAG's to facilitate purification or detection of the protein.
7. The method as claimed in claims 1-6, wherein the oligopeptides according to claim 5 are being part of the sequence of the polypeptide according to claim 6 meaning that the sequence of the oligopeptide is occurring in the sequence of the polypeptide.
8. The method as claimed in claims 1-7, wherein the amino acid sequence of the polypeptides is selected from the sequences of pregnancy-

associated plasma protein A (PAPP-A; gi:38045915) or from ADAM-TS 13 (gi:21265049).

9. The method as claimed in claims 1-9, wherein fertility-relevant autoantibodies being bound to the anti-idiotypic molecule are detected by an ELISA protocol using secondary antibodies being labelled with a detectable moiety such as an enzyme, a fluorochrome or biotin.

10. An oligopeptide selected from one of the sequences (SEQ ID No. 1-8)

VYKSPNAYTLFS (Seq ID No. 1)

QGLPAPQSYSRI (Seq ID No. 5)

RPEPQGAYLEQG (Seq ID No. 2)

NSSYSPLSLLESG (Seq ID No. 3)

DQYIQQAHRSWI (Seq ID No. 4)

KQASNLTDMHYP (Seq ID No. 6)

AQPNWTSRLRSLP (Seq ID No. 7)

HVNPHLHVHAWD (Seq ID No. 8)

or retro-inverso derivatives of these peptide sequences.

11. Oligopeptides which are derivatives, fragments and/or homologues of the oligopeptides of claim 10, which differ from the oligopeptides in claim 10 such that

- the oligopeptide amino acid sequence is extended at the amino-terminus and/or the carboxy-terminus by either up to 5 amino acids per terminus, and/or
- in the homologous oligopeptides up to 3 amino acids are substituted by other amino acids, and/or
- the fragments lack 1 or 2 amino acids at the N- or C-terminus, and/or

- the oligopeptides are derivatized for detection by modifications including biotinylation, labelling by fluorochromes or radiolabelling; or Retro-Inverso derivatives of these derivatives, fragments or homologues.
12. Oligopeptides comprising 8 to 50 amino acids which are fragments of the sequences of pregnancy-associated plasma protein A (PAPP-A; gi:38045915) or from ADAM-TS 13 (gi:21265049).
13. Dimers, trimers or multimers of oligopeptides of any of claims 10 to 12.
14. A medicament or pharmaceutical preparation comprising at least one oligopeptide of any of claims 10 to 12, dimers, trimers or multimers of oligopeptides according to claim 13 or a polypeptide having the sequence of pregnancy-associated plasma protein A (PAPP-A; gi:38045915) or from ADAM-TS 13 (gi:21265049).
15. A diagnostic comprising at least one oligopeptide of any of claims 10 to 12, dimers, trimers or multimers of oligopeptides according to claim 13 or a polypeptide having the sequence of pregnancy-associated plasma protein A (PAPP-A; gi:38045915) or from ADAM-TS 13 (gi:21265049).
16. Use of a medicament of claim 14 for the treatment of fertility disorders.
17. Use of diagnostic of claim 15 as a diagnostic of fertility disorders or pregnancy complications.
18. The method of any of claims 4 to 9, wherein the oligo- or polypeptide is any of claims 10 to 12 or a dimer, trimer or multimer of claim 13.
19. A diagnostic kit providing all reagents, standards, controls and accessories necessary to perform a method according to claims 1-9 and 17.
20. Use of a pharmaceutical preparation containing at least one oligopeptide of any of claims 10 to 12, dimers, trimers or multimers of oligopeptides according to claim 13 or a polypeptide having the sequence

of pregnancy-associated plasma protein A (PAPP-A; gi:38045915) or from ADAM-TS 13 (gi:21265049) for contraception or inducing sterility.